

AMENDMENTS TO THE CLAIMS:

Cancel claims 15-16, 23-24, 29-36, 39-40, 46, and 49-50, without prejudice.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-12. (Previously Cancelled)

13. (Currently Amended) A curtain coater for coating a moving web of paper or board, the curtain coater comprising:

an applicator nozzle positioned above the web to be coated and configured so as to apply coating mix ejected therefrom to a surface of the web in a continuous curtain extending uniformly over a cross-machine width of the web; and

a doctoring means configured to remove a boundary air layer traveling on the surface of the web to be coated and being located upstream in the travel direction of the web of an impingement point of the coating mix curtain on the surface of the web and being located on the same side of the web as the applicator nozzle, the surface of the doctoring means facing the web being curved to support the web, wherein said doctoring means comprises a suction nozzle extending over the cross-machine width of the web and set in the doctoring means so as to remove by suction the boundary air layer traveling on the surface of the web.

14. (Previously Presented) The curtain coater of claim 13, further comprising a gas-injection nozzle located downstream in the travel direction of the web of the applicator nozzle, configured so as to extend over the cross-machine width of the web, and adapted to blow gas toward the coating mix curtain applied to the web from the applicator nozzle.

15-16. (Currently Cancelled)

17. (Currently Amended) The curtain coater of claim 13 [~~15~~], wherein an inlet opening of the suction nozzle is on a downstream-directed wall of the doctoring means.

18. (Currently Amended) The curtain coater of claim 14 [~~15~~], wherein an inlet opening of the suction nozzle is on a downstream-directed wall of the doctoring means.

19. (Currently Amended) The curtain coater of claim 13 [~~15~~], wherein an inlet opening of the suction nozzle is on a surface of the doctoring means facing the web.

20. (Currently Amended) The curtain coater of claim 14 [~~16~~], wherein an inlet opening of the suction nozzle is on a surface of the doctoring means facing the web.

21. (Previously Presented) The curtain coater of claim 13, wherein a distance between the web and the curved surface of the doctoring means is up to 500 μm .

22. (Previously Presented) The curtain coater of claim 14, wherein a distance between the web and the curved surface of the doctoring means is up to 500 μm .

23-24. (Currently Cancelled)

25. (Previously Presented) The curtain coater of claim 17, wherein a distance between the web and the curved surface of the doctoring means is up to 500 μm .

26. (Previously Presented) The curtain coater of claim 18, wherein a distance between the web and the curved surface of the doctoring means is up to 500 μm .

27. (Previously Presented) The curtain coater of claim 19, wherein a distance between the web and the curved surface of the doctoring means is up to 500 μm .

28. (Previously Presented) The curtain coater of claim 20, wherein a distance between the web and the curved surface of the doctoring means is up to 500 μm .

29-36. (Currently Cancelled)

37. (Currently Amended) The curtain coater of claim 13, wherein [~~that~~] a distance along the surface of the web from a downstream end of said doctoring means to the impingement point under said applicator nozzle is less than 50 mm.

38. (Currently Amended) The curtain coater of claim 14, wherein [~~that~~] a distance along the surface of the web from a downstream end of said doctoring means to the impingement point under said applicator nozzle is less than 50 mm.

39-40. (Currently Cancelled)

41. (Currently Amended) The curtain coater of claim 17, wherein [~~that~~] a distance along the surface of the web from a downstream end of said doctoring means to the impingement point under said applicator nozzle is less than 50 mm.

42. (Currently Amended) The curtain coater of claim 18, wherein [~~that~~] a distance along the surface of the web from a downstream end of said doctoring means to the impingement point under said applicator nozzle is less than 50 mm.

43. (Currently Amended) The curtain coater of claim 19, wherein [~~that~~] a distance along the surface of the web from a downstream end of said doctoring means to the impingement point under said applicator nozzle is less than 50 mm.

44. (Currently Amended) The curtain coater of claim 20, wherein [~~that~~] a distance along the surface of the web from a downstream end of said doctoring means to the impingement point under said applicator nozzle is less than 50 mm.

45. (Currently Amended) The curtain coater of claim 21, wherein ~~that~~ a distance along the surface of the web from a downstream end of said doctoring means to the impingement point under said applicator nozzle is less than 50 mm.

46. (Cancelled).

47. (Currently Amended) A curtain-coating method for coating a moving web of paper or board, comprising:

passing the web to be coated to a coater station; ~~and~~

using an applicator nozzle positioned above the web to apply coating mix ejected therefrom to a surface of the web as a continuous curtain extending uniformly over a cross-machine width of the web;

removing a boundary air layer traveling along with the web from the surface of the web facing the applicator nozzle by suction from a suction nozzle in ~~with~~ a doctoring means located upstream in the travel direction of the web of the applicator nozzle; and

supporting the web with a curved surface of the doctoring means.

48. (Previously Presented) The curtain-coating method of claim 47, further comprising blowing gas toward the coating mix curtain being applied from the applicator nozzle from a gas-injection nozzle located downstream of the applicator nozzle in the travel direction of the web, the gas-injection nozzle extending over the cross-machine width of the web.

49-50. (Currently Cancelled)

51. (New) A curtain coater for coating a moving web of paper or board, the curtain coater comprising:

an applicator nozzle for applying a coating mix to a surface of the web in a continuous curtain extending uniformly over a cross-machine width of the web; and

a doctoring means located upstream relative to a travel direction of the web from an application zone where the coating curtain impinges the web surface, wherein said doctoring means comprises:

- a curved surface for receiving the web and substantially removing a boundary air layer above the web surface before the coating curtain impinges the web surface, wherein the web follows a curvature of said curved surface and the web surface faces said curved surface; and
- a suction nozzle for substantially removing the boundary air layer, wherein said suction means extends over the cross-machine width of the web.

52. (New) The curtain coater of claim 51, further comprising a gas-injection nozzle for augmenting an adherence of the coating curtain to the web surface by blowing gas toward the coating curtain, said gas nozzle being positioned downstream relative to the travel direction of the web from the applicator nozzle such that a momentum of the blown gas and a momentum of the coating curtain may combine to force the coating mix to penetrate the boundary air layer.

53. (New) The curtain coater of claim 51, wherein an inlet opening of the suction nozzle in the doctoring means faces the coating curtain.

54. (New) The curtain coater of claim 51, wherein an inlet opening of the suction nozzle in the doctoring means is on the curved surface of the doctoring means.

55. (New) The curtain coater of claim 51, wherein a distance between the web surface and the curved surface of the doctoring means is up to 500 μm .

56. (New) The curtain coater of claim 51, wherein the curved surface of the doctoring means comprises an end surface comprises the portion of the curved surface nearest the application zone, wherein said end surface is positioned as close as possible to the application zone.

57. (New) The curtain coater of claim 56, wherein the doctoring means is positioned such that the end surface is within about 50mm of the application zone.

58. (New) A curtain coater for coating a moving web of paper or board, the curtain coater comprising:

- an applicator nozzle for applying a coating mix to a surface of the web in a continuous curtain extending uniformly over a cross-machine width of the web; and
- a gas-injection nozzle for augmenting an adherence of the coating curtain to the web surface by blowing gas toward the coating curtain, said gas nozzle being positioned downstream relative to the travel direction of the web from the applicator nozzle such that a momentum of the blown gas and a momentum of the coating curtain may combine to force the coating mix to penetrate a boundary air layer above the web surface.

59. (New) The curtain coater of claim 58, further comprising a suction nozzle for substantially removing the boundary air layer, wherein said suction means extends over the cross-machine width of the web and is located upstream relative to the travel direction of the web from an application zone.

60. (New) The curtain coater of claim 58, further comprising a doctoring means located upstream relative to a travel direction of the web from an application zone where the coating curtain impinges the web surface, wherein said doctoring means comprises a curved surface for receiving the web and substantially removing a boundary air layer above the web surface before the coating curtain impinges the web surface, wherein the web follows a curvature of said curved surface and the web surface faces said curved surface.

61. (New) The curtain coater of claim 60, wherein the curved surface of the doctoring means further comprises a suction nozzle for substantially removing the boundary air layer, wherein said suction means extends over the cross-machine width of the web and is located upstream relative to the travel direction of the web from an application zone.

62. (New) The curtain coater of claim 60, wherein the curved surface of the doctoring means further comprises a doctoring bar.